

June 29, 2016

Ms. Robin Feller
JRM Environmental, Inc.
PO Box 926
Brownsburg, IN 461120926

RE: Project: Duke Edwardsport
Pace Project No.: 50147471

Dear Ms. Feller:

Enclosed are the analytical results for sample(s) received by the laboratory on June 15, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Karen Fullmer
karen.fullmer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Duke Edwardsport

Pace Project No.: 50147471

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas/NELAP Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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SAMPLE SUMMARY

Project: Duke Edwardsport

Pace Project No.: 50147471

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50147471001	Field Blank	Water	06/15/16 11:45	06/15/16 15:40
50147471002	501	Water	06/15/16 11:50	06/15/16 15:40
50147471003	501	Water	06/15/16 11:55	06/15/16 15:40
50147471004	501	Water	06/15/16 11:55	06/15/16 15:40

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SAMPLE ANALYTE COUNT

Project: Duke Edwardsport

Pace Project No.: 50147471

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50147471001	Field Blank	EPA 1631E	WJW	1
50147471002	501	EPA 1631E	WJW	1
50147471003	501	SM 2540C	MDG	1
50147471004	501	EPA 200.8	CAW	2

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ANALYTICAL RESULTS

Project: Duke Edwardsport

Pace Project No.: 50147471

Sample: Field Blank		Lab ID: 50147471001	Collected: 06/15/16 11:45	Received: 06/15/16 15:40	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E						
Mercury	ND	ng/L	0.50	1	06/22/16 15:20	06/23/16 09:10	7439-97-6	

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ANALYTICAL RESULTS

Project: Duke Edwardsport

Pace Project No.: 50147471

Sample: 501		Lab ID: 50147471002		Collected: 06/15/16 11:50		Received: 06/15/16 15:40		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E							
Mercury	ND	ng/L	0.50	1	06/22/16 15:20	06/23/16 10:11	7439-97-6		

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ANALYTICAL RESULTS

Project: Duke Edwardsport

Pace Project No.: 50147471

Sample: 501		Lab ID: 50147471003		Collected: 06/15/16 11:55		Received: 06/15/16 15:40		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids		ND	mg/L	10.0	1	06/20/16 10:57			

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ANALYTICAL RESULTS

Project: Duke Edwardsport

Pace Project No.: 50147471

Sample: 501		Lab ID: 50147471004		Collected: 06/15/16 11:55		Received: 06/15/16 15:40		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic	ND	ug/L	1.0	1	06/23/16 08:30	06/25/16 03:18	7440-38-2		
Selenium	ND	ug/L	1.0	1	06/23/16 08:30	06/27/16 18:40	7782-49-2		

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QUALITY CONTROL DATA

Project: Duke Edwardsport

Pace Project No.: 50147471

QC Batch: CVFS/1410

Analysis Method: EPA 1631E

QC Batch Method: EPA 1631E

Analysis Description: 1631E Mercury

Associated Lab Samples: 50147471001, 50147471002

METHOD BLANK: 1569186

Matrix: Water

Associated Lab Samples: 50147471001, 50147471002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	06/23/16 08:26	

METHOD BLANK: 1569187

Matrix: Water

Associated Lab Samples: 50147471001, 50147471002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	06/23/16 10:04	

METHOD BLANK: 1569188

Matrix: Water

Associated Lab Samples: 50147471001, 50147471002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	06/23/16 11:39	

LABORATORY CONTROL SAMPLE: 1569189

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ng/L	5	4.90	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1569190 1569191

Parameter	Units	50147328004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	1.22	2.5	2.5	3.50	4.12	91	116	71-125	16	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1569192 1569193

Parameter	Units	50147471002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	ND	2.5	2.5	2.78	2.74	111	110	71-125	1	24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Duke Edwardsport

Pace Project No.: 50147471

QC Batch: MPRP/21294

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Associated Lab Samples: 50147471004

METHOD BLANK: 1567948

Matrix: Water

Associated Lab Samples: 50147471004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	1.0	06/24/16 17:35	
Selenium	ug/L	ND	1.0	06/24/16 17:35	

LABORATORY CONTROL SAMPLE: 1567949

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.9	95	85-115	
Selenium	ug/L	40	36.8	92	85-115	

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QUALITY CONTROL DATA

Project: Duke Edwardsport

Pace Project No.: 50147471

QC Batch: WET/29850

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 50147471003

METHOD BLANK: 1566141

Matrix: Water

Associated Lab Samples: 50147471003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	06/20/16 10:56	

LABORATORY CONTROL SAMPLE: 1566142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	300	275	92	80-120	

SAMPLE DUPLICATE: 1566143

Parameter	Units	50147503001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1540	1560	1	10	

SAMPLE DUPLICATE: 1566144

Parameter	Units	50147552002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	474	473	0	10	

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QUALIFIERS

Project: Duke Edwardsport

Pace Project No.: 50147471

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Duke Edwardsport

Pace Project No.: 50147471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50147471001	Field Blank	EPA 1631E	CVFS/1410	EPA 1631E	CVFS/1411
50147471002	501	EPA 1631E	CVFS/1410	EPA 1631E	CVFS/1411
50147471004	501	EPA 200.8	MPRP/21294	EPA 200.8	ICPM/3257
50147471003	501	SM 2540C	WET/29850		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Client w/ice	Ph-7 del	6/15/16	15:40	Maurice Burnett / Pace	6/15/16	15:40	0.68	Y					
<div> <div>SAMPLER NAME AND SIGNATURE</div> <div> <div>PRINT Name of SAMPLER: Rob W Fellert ALA's in 705562</div> <div>SIGNATURE of SAMPLER: Ph-7 del</div> <div>DATE Signed (MM/DD/YY): 6/15/16</div> </div> </div>													

Sample Condition Upon Receipt

Pace Analytical

Client Name:

JRM

Project #

S0147471

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present:

☐ yes☒ no

Seals intact:

☐ yes☒ no

Date/Time 5035A kits placed in freezer

Packing Material:

☐ Bubble Wrap☐ Bubble Bags☒ None☐ Other

Thermometer

1 2 3 4 5 6 A B C D E F

Type of Ice:

Wet

Blue None

☒ Samples on ice, cooling process has begunCooler Temperature
(Initial/Corrected)

0.6°C/0.6°C

Ice Visible in Sample Containers:

☐ yes☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: AS 6/15/16

Are samples from West Virginia?

☐ Yes ☒ No

Document any containers out of temp.

Chain of Custody Present:

☒ Yes ☐ No ☐ N/A

Chain of Custody Filled Out:

☒ Yes ☐ No ☐ N/A

Chain of Custody Relinquished:

☒ Yes ☐ No ☐ N/A

Sampler Name & Signature on COC:

☒ Yes ☐ No ☐ N/A

Short Hold Time Analysis (<72hr):

☐ Yes ☒ No ☐ N/A

Rush Turn Around Time Requested:

☐ Yes ☒ No ☐ N/A

Containers Intact:

☒ Yes ☐ No ☐ N/A

Sample Labels match COC:

☒ Yes ☐ No ☐ N/A

-Includes date/time/ID/Analysis

All containers needing acid/base pres. have been checked?

☒ Yes ☐ No ☐ N/A

exceptions: VOA, coliform, TOC, O&G

All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.

Residual Chlorine Check (SVOC 625 Pest/PCB 608)

11. Present Absent

Residual Chlorine Check (Total/Amenable/Free Cyanide)

12. Present Absent

Headspace in VOA Vials (>6mm):

☐ Yes ☐ No ☒ N/A

Headspace Wisconsin Sulfide

☐ Yes ☐ No

Trip Blank Present:

☐ Yes ☐ No ☒ N/A

Trip Blank Custody Seals Present

☐ Yes ☐ No ☒ N/A

Project Manager Review

Samples Arrived within Hold Time:

☒ Yes ☐ No ☐ N/A

Sufficient Volume:

☒ Yes ☐ No ☐ N/A

Correct Containers Used:

☒ Yes ☐ No ☐ N/A

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted:

Date/Time:

Comments/ Resolution:

Project Manager Review:

Date:

Sample Container Count

CLIENT: JRM

COC PAGE 1 of 1

COC ID# 2032737

Project # 50147471

Sample Line

Item	DG9H	AG1U	WG9U	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	AG2U	pH <2	pH >9	pH >12
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1 liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WG9U	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber glass	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	SP5T	120mL Coliform Na Thiosulfate
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear glass	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag